REMARKS/ARGUMENTS

I. General

Claims 1-75 were pending in the application and were rejected in the present Office Action. The outstanding issues in the present Office Action are:

- Claims 1-75 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Number 6,335,927 issued to Elliot et al. (hereinafter "*Elliot*") in view of U.S. Patent Number 6,363,411 issued to Dungan et al. (hereinafter "*Dungan*").

In response, Applicant respectfully traverses the outstanding claim rejections, and requests reconsideration and withdrawal in light of the remarks presented herein.

II. Amendments

In the Specification

Certain amendments are made to the specification to correct typographical and/or grammatical informalities present therein. No new matter is added by the above amendments to the specification.

In the Drawings

In the present Office Action, the drawings are objected to because of the informalities noted in the Notice of Draftsperson's Patent Drawing Review (Form PTO 948). In response, Applicant submits herewith formal drawings correcting such informalities. No new matter is added by the formal drawings.

In the Claims

Claims 29, 44, 46, 48, 49, 51, 53, 54, 55, and 61 are amended herein. No new matter is added by the claim amendments presented herein.

More specifically, claim 29 is amended to resolve inconsistent terminology used therein. Particularly, both "one or more domain managers" and "at least one domain

manager" was recited in claim 29, and while each phrase was intended to have the same meaning, claim 29 is amended to consistently recite "at least one domain manager" therein for consistency. Thus, this amendment to claim 29 is not intended to narrow its scope in any manner but is instead intended merely as a cosmetic change. Further, claim 29 is amended to recite that the received service order comprises at least one generic service component to provide proper antecedent basis for the recitation of generic service component appearing later in the claim.

Independent claim 44 is amended by adding thereto: "wherein said means for translating comprises means for translating vendor neutral said one or more universal service components into vendor specific form and means for translating device neutral said one or more universal service components into device specific form". This added language originally appeared in claim 46, which depended from claim 44. Thus, claim 46 is amended herein by deleting the above language therefrom, as such language is now included in independent claim 44.

Independent claim 48 is amended herein by adding thereto: "wherein said one or more universal service components each provide a vendor neutral and device neutral definition of a service". Also, a usage of "vendor neutral" and a usage of "device neutral" are deleted from the claim.

Independent claim 49 is amended herein by adding certain language thereto, including limitations that originally appeared in claim 51, which depended from claim 49. Thus, claim 51 is amended herein by deleting the language therefrom that has been added in independent claim 49.

Independent claim 53 is amended to resolve inconsistent terminology used therein and antecedent basis issues. Particularly, both "generic service components" and "generic service component instances" was recited in claim 53, and claim 53 is amended herein to consistently recite "generic service components" therein for consistency. Further, two occurrences of "the appropriate element management system" are each changed to "an appropriate element management system" to correct antecedent basis issues. The above amendments to claim 53 are not intended to narrow its scope in any manner, but are instead intended merely as cosmetic changes.

Independent claims 54 and 55 are each amended herein by clarifying therein that the recited generic service components define "a service in device neutral parameters".

As with independent claim 29, independent claim 61 is amended to resolve inconsistent terminology used therein. Particularly, both "one or more domain managers" and "at least one domain manager" was recited in claim 61, and while each phrase was intended to have the same meaning, claim 61 is amended to consistently recite "at least one domain manager" therein for consistency. Thus, this amendment to claim 61 is not intended to narrow its scope in any manner but is instead intended merely as a cosmetic change. Further, claim 61 is amended to recite that the received service order comprises at least one generic service component to provide proper antecedent basis for the recitation of generic service component appearing later in the claim.

III. Claim Rejections Under 35 U.S.C. § 103(a)

Claims 1-75 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Elliot* in view of *Dungan*. Applicant respectfully traverses the claim rejections in view of the comments below.

To establish a prima facie case of obviousness, three basic criteria must be met. *See* M.P.E.P. § 2143. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference must teach or suggest all the claim limitations. Without conceding any other criteria, Applicant respectfully asserts that the rejection does not satisfy the third criterion. That is, the applied combination of *Elliot* and *Dungan* fails to teach or suggest each and every limitation of the claims.

Independent Claims 1, 24, 54, and 55

Applicant respectfully submits that the applied combination of *Elliot* and *Dungan* fails to teach or suggest all of the limitations of independent claims 1, 24, 54, and 55. For example, independent claim 1 recites, in part, "(a) receiving a service order having one or more service components with each component being in a generic service request format; . . .

(c) translating the service component in each appropriate domain manager into corresponding device specific parameters".

Independent claim 24 recites, in part, "(a) an order processing system for receiving a service order having one or more generic service components; (b) at least one domain manager . . . the domain manager translates said generic service component into corresponding device specific parameters".

Independent claim 54, as amended herein, recites, in part, "(a) an order processing system for receiving a service order having one or more generic service components defining a service in device neutral parameters; (b) at least one domain manager . . . the domain manager translates said generic service component into corresponding device specific parameters".

Independent claim 55, as amended herein, recites, in part, "(a) an order processing system for receiving a service order having one or more generic service components defining a service in device neutral parameters; (b) at least one domain manager . . . the domain manager translates said generic service component into corresponding device specific parameters".

The combination of *Elliot* and *Dungan* fails to teach or suggest at least the above limitations of independent claims 1, 24, 54, and 55.

The Examiner contends that *Elliot* teaches receiving a service order having one or more service components with each component being in a generic service request format. More specifically, the Examiner relies on col. 23, lines 14-21 of *Elliot* as teaching this limitation of claim 1, *see* item 2 on Page 2 of Office Action. Column 23, lines 14-21 of *Elliot* provides:

> Each of these new networks are envisioned to interoperate with the ISP 2100 in the same way. Calls (or transactions) will originate in a network from a customer service request, the ISP will receive the transaction and provide service by first identifying the customer and forwarding the transaction to a generalized service-engine 2134. The service engine determines what service features are needed and either applies the necessary logic or avails itself of specialized network resources for the needed features.

The above teaching of *Elliot* fails to teach or suggest "receiving a service order having one or more service components with each component being in a generic service request format", as recited by claim 1. Likewise it fails to teach or suggest "an order processing system for receiving a service order having one or more generic service components", as recited by claim 24. Similarly, it fails to teach or suggest "an order processing system for receiving a service order having one or more generic service components defining a service in device neutral parameters", as recited by claims 54 and 55. Rather, the above teaching of *Elliot* teaches that a call (or transaction) originates from a customer service request, and the ISP receives the transaction and provides service by first identifying the customer and forwarding the transaction to a generalized service-engine 2134. The above teaching of *Elliot* does not teach or suggest that a received transaction from a customer service request comprises one or more service components in a generic service request format. Accordingly, *Elliot* fails to teach or suggest the above limitations of claims 1, 24, 54, and 55.

Further, the Examiner concedes in the Office Action that *Elliot* fails to teach or suggest translating the service component in each appropriate domain manager into corresponding device specific parameters, *see* item 2 on page 2 of Office Action. However, the Examiner asserts that *Dungan* teaches this element and contends that it would have been obvious to one having ordinary skill in the art at the time the invention was made to have incorporated the teaching of *Dungan* into the system of *Elliot*. More specifically, the Examiner relies on col. 22, lines 47-61 of *Dungan* as teaching this limitation, *see* item 2 on Page 2 of Office Action. Column 22, lines 47-61 of *Dungan* provides:

> More specifically, as part of the service/data activation step, SA implements a trigger which causes the downloading of the service profile at the appropriate time. When a service profile (e.g., as shown in Table 2) is downloaded to a service node, the service profile includes the service start and end times. The service profile is downloaded to the service node by provisioning the information into Data Management, as will be described in further detail with respect to FIG. 5(f). The NOS, acting as a DM Client, is notified of the change in service profile information via the DM API. In a preferred embodiment, SA sends a message to a NOS Name Translation (ANT") function in each SLEE on which the service will execute to direct a name translation function to re-point the logical name for the service to the physical address or object reference of the version that is being activated.

The above teaching of *Dungan* fails to teach or suggest "translating the service component in each appropriate domain manager into corresponding device specific

parameters", as recited by claim 1. Likewise it fails to teach or suggest "at least one domain manager . . . the domain manager translates said generic service component into corresponding device specific parameters", as recited by claim 24. Similarly, it fails to teach or suggest "at least one domain manager . . . the domain manager translates said generic service component into corresponding device specific parameters", as recited by claims 54 and 55.

First, as described above, the Examiner relies on *Elliot* as teaching receiving generic service components in that *Elliot* teaches receipt of a call (or transaction). *Dungan* fails to teach or suggest translating any service components that are received via such a call (or transaction). Thus, it seems that the elements combined in *Elliot* and *Dungan* do not correlate. If the Examiner maintains this rejection, Applicant respectfully requests that the Examiner clarify the specific element taught above by *Dungan* that the Examiner relies upon as providing the claimed generic service component (e.g., does the Examiner contend that the service profile of *Dungan* provides the claimed generic service component?).

Further, the above teaching of *Dungan* does not teach translating a generic service component into corresponding device specific parameters. Rather, it merely describes downloading a service profile, such as that of Table 2 in *Dungan*, that specifies the system requirements for a service. The above portion of *Dungan* teaches that it performs a name translation to identify the service being requested. For instance, as described at col. 18, lines 13-22 of *Dungan*:

> SA provides a unique name to every version of every service/data entity prior to storing the service/data entity in the DBOR 230, so that multiple versions of the same service/data entity may be maintained. When SA distributes the data/services to Data Management, a single logical name is provided with each entity, along with a unique version name, so that processes such as SLPs may call on a service/data entity with a common logical name without having to know which version is needed.

While a name translation is performed to identify the service that is requested (e.g., the correct version of the service), the above teaching of *Dungan* fails to teach or suggest translating a generic service component into corresponding device specific parameters.

In view of the above, because the combination of *Elliot* and *Dungan* fails to teach or

suggest all of the limitations of independent claims 1, 24, 54, and 55 as discussed above, Applicant respectfully submits that these independent claims are not obvious under 35 U.S.C. § 103(a) over *Elliot* in view of *Dungan*, and therefore Applicant respectfully requests withdrawal of this rejection.

Independent Claims 29 and 61

Applicant respectfully submits that the applied combination of *Elliot* and *Dungan* fails to teach or suggest all of the limitations of independent claims 29 and 61. For example, independent claims 29 and 61, as amended herein, each recites, in part, "an activation system further comprising: an order processing system communicatively interconnected between said service provisioning systems and at least one domain manager communicatively connected to the order processing system for receiving a service order comprising at least one generic service component, wherein the at least one domain manager translates said at least one generic service component into corresponding device specific parameters" (emphasis added).

As described above with independent claims 1, 24, 54, and 55, the combination of *Elliot* and *Dungan* fails to teach or suggest the above limitation of independent claims 29 and 61. That is, the combination of *Elliot* and *Dungan* fails to teach or suggest a domain manager for "receiving a service order comprising at least one generic service component". Further, the combination of *Elliot* and *Dungan* fails to teach or suggest "wherein the at least one domain manager translates said at least one generic service component into corresponding device specific parameters". Thus, independent claims 29 and 61 are not obvious in view of the combination of *Elliot* and *Dungan*.

Further, independent claims 29 and 61 each recites "one or more peer managers communicatively connected to the at least one domain manager to route the at least one generic service component to an appropriate domain manager of the at least one domain manager". The combination of *Elliot* and *Dungan* also fails to teach or suggest this further limitation of independent claims 29 and 61. From the Examiner's rejection of claim 61 (on page 8 of the Office Action), it appears that the Examiner relies on the teaching of *Elliot* at col. 17, lines 62-67 and col. 18, lines 1-8 as providing the recited one or more peer managers. The relied upon portion of *Elliot* provides:

> FIG. 19F is a block diagram of an internet telephony system in accordance with a preferred embodiment. A number of computers 1900, 1901, 1902 and 1903 are connected behind a firewall 1905 to the Internet 1910 via an Ethernet or other network connection. A domain name system 1906 maps names to IP addresses in the Internet 1910. Individual systems for billing 1920, provisioning 1922, directory services 1934, messaging services 1930, such as voice messaging 1932 are all attached to the internet 1910 via a communication link. Another communication link is also utilized to facilitate communications to a satellite device 1940 that is used to communicate information to a variety of set top devices 1941-1943. A web server 1944 provides access for an order entry system 1945 to the Internet 1910.

The above teaching of *Elliot* fails to teach or suggest the recited "one or more peer managers communicatively connected to the at least one domain manager to route the at least one generic service component to an appropriate domain manager of the at least one domain manager" of claims 29 and 61. While the above teaching of *Elliot* describes that a "domain name system 1906 maps names to IP addresses in the Internet 1910", it fails to teach or suggest a peer manager for routing at least one generic service component to an appropriate domain manager, as claimed by claims 29 and 61. For instance, the domain name system 1906 of *Elliot*, which maps names to IP addresses, does not receive a generic service component and translate the generic service component into corresponding device specific parameters, as does the claimed domain manager of claims 29 and 61.

The Examiner's reliance on *Elliot* as disclosing the recited domain manager and peer manager is inconsistent with the Examiner's concessions in the Office Action. For instance, the Examiner concedes that *Elliot* fails to teach or suggest translating a generic service component into corresponding device specific parameters (*see* item 2 on page 2 of Office Action), which is the claimed functionality of the domain manager of claims 29 and 61. However, the Examiner maintains that *Elliot* teaches the recited domain manager and further asserts that *Elliot* teaches a peer manager for routing a generic service component to the appropriate domain manager. Applicant fails to understand how this can be taught by *Elliot*, when the Examiner concedes that translating a generic service component into corresponding device specific parameters is not taught by *Elliot*. That is, because *Elliot* fails to teach or suggest translating a generic service component into corresponding device specific parameters, which is the claimed functionality of the recited domain manager of claims 29 and 61, *Elliot* necessarily fails to teach or suggest the recited domain manager, and thus *Elliot* further fails to teach or suggest one or more peer managers for routing a generic service

component to an appropriate domain manager.

In view of the above, because the combination of *Elliot* and *Dungan* fails to teach or suggest all of the limitations of independent claims 29 and 61 as discussed above, Applicant respectfully submits that these independent claims are not obvious under 35 U.S.C. § 103(a) over *Elliot* in view of *Dungan*, and therefore Applicant respectfully requests withdrawal of this rejection.

Independent Claim 44

Applicant respectfully submits that the applied combination of *Elliot* and *Dungan* fails to teach or suggest all of the limitations of independent claim 44. For example, independent claim 44, as amended herein, recites, in part, "means for describing a service by one or more universal service components using universal service component relationships stored in a database; means for translating a service by employing universal service translation including parameter mapping, service decomposition, and command composition, wherein said means for translating comprises means for translating vendor neutral said one or more universal service components into vendor specific form and means for translating device neutral said one or more universal service components into device specific form" (emphasis added).

As described above with independent claims 1, 24, 54, and 55, the combination of *Elliot* and *Dungan* fails to teach or suggest the above limitation of independent claim 44. That is, the combination of *Elliot* and *Dungan* fails to teach or suggest a means for translating a vendor neutral universal service component into vendor specific form. Further, the combination of *Elliot* and *Dungan* fails to teach or suggest a means for translating a device neutral universal service component into device specific form. Thus, independent claim 44 is not obvious in view of the combination of *Elliot* and *Dungan*.

In view of the above, because the combination of *Elliot* and *Dungan* fails to teach or suggest all of the limitations of independent claim 44, Applicant respectfully submits that this independent claim is not obvious under 35 U.S.C. § 103(a) over *Elliot* in view of *Dungan*, and therefore Applicant respectfully requests withdrawal of this rejection.

Independent Claims 48, 49, and 53

Applicant respectfully submits that the applied combination of *Elliot* and *Dungan* fails to teach or suggest all of the limitations of independent claims 48, 49, and 53. For example, independent claim 48, as amended herein, recites, in part:

> means for populating into a service provisioning system one or more universal service components, wherein said one or more universal service components each provide a vendor neutral and device neutral definition of a service;
> means for grouping said universal service component instances together to compose a service order; . . .

Similarly, independent claim 49, as amended herein, recites, in part:

> describing a service in a universal service component;
> including one or more of said universal service components in a service order;

Similarly, independent claim 53 recites, in part:

> populating into one or more service provisioning system one or more generic service components;
> grouping said generic service components together to compose a service order; . . .

As described above with independent claims 1, 24, 54, and 55, the combination of *Elliot* and *Dungan* fails to teach or suggest the above limitations of independent claims 48, 49, and 53. That is, the combination of *Elliot* and *Dungan* fails to teach or suggest grouping generic service components (or universal service components) together to compose a service order. The Examiner asserts that *Elliot* teaches such a service order at col. 23, lines 14-21 thereof. However, as explained above with claims 1, 24, 54, and 55, this relied upon portion of *Elliot* teaches that a call (or transaction) originates from a customer service request, and an ISP receives the transaction and provides service by first identifying the customer and forwarding the transaction to a generalized service-engine 2134. This teaching of *Elliot* does not teach or suggest that a received transaction from a customer service request comprises one or more generic (or universal) service components. Accordingly, *Elliot* fails to teach or suggest the above limitations of claims 48, 49, and 53.

Additionally, independent claim 48 further recites:

means for routing said universal service components to an appropriate domain manager;

means for translating said universal service components into vendor specific format;

means for translating said universal service components into device specific format . . . . (Emphasis added).

Also, independent claim 49, as amended herein, recites, in part:

> processing said service order by an activation system;
> routing said one or more of said universal service components included in said service order to an appropriate domain manager;
> said appropriate domain manager translating vendor neutral universal service components into vendor specific form and translating device neutral universal service components into device specific form; and
> activating said service described by said one or more universal service components in said service order. (Emphasis added).

And, independent claim 53, as amended herein, recites, in part:

> routing said generic service components to an appropriate domain manager;
> translating vendor neutral generic service components into vendor specific terminology;
> translating device neutral generic service components into device specific terminology; . . . .

As described above with claim 44, the applied combination of *Elliot* and *Dungan* fails to teach or suggest translating a generic (or universal) service component into vendor specific form (or terminology) and translating such generic (or universal) service component into device specific form (or terminology). Accordingly, the combination of *Elliot* and *Dungan* fails to teach or suggest each and every element of claims 48, 49, and 53.

Additionally, independent claim 49 recites "routing said one or more of said universal service components included in said service order to an appropriate domain manager" (emphasis added), and it specifies that "said appropriate domain manager translating vendor neutral universal service components into vendor specific form and translating device neutral universal service components into device specific form". As described above with claims 29

and 61, the applied combination of *Elliot* and *Dungan* fails to teach or suggest routing of universal service components included in a service order to an appropriate domain manager. Thus, the applied combination fails to teach or suggest at least this limitation of independent claim 49.

In view of the above, because the combination of *Elliot* and *Dungan* fails to teach or suggest all of the limitations of independent claims 48, 49, and 53 as discussed above, Applicant respectfully submits that these independent claims are not obvious under 35 U.S.C. § 103(a) over *Elliot* in view of *Dungan*, and therefore Applicant respectfully requests withdrawal of this rejection.

Dependent claims 2-23, 25-28, 30-43, 45-47, 50-52, 56-60, and 62-75

In view of the above, Applicant respectfully submits that independent claims 1, 24, 29, 44, 48, 49, 53, 54, 55, and 61 are not obvious under 35 U.S.C. § 103(a) over *Elliot* in view of *Dungan* because the applied combination fails to teach each and every element of such independent claims. Further, each of dependent claims 2-23, 25-28, 30-43, 45-47, 50-52, 56-60, and 62-75 depend either directly or indirectly from one of independent claims 1, 24, 29, 44, 48, 49, 53, 54, 55, and 61, and thus inherit all limitations of the respective independent claims from which they depend. It is respectfully submitted that dependent claims 2-23, 25-28, 30-43, 45-47, 50-52, 56-60, and 62-75 are allowable not only because of their dependency from their respective independent claims for the reasons discussed above, but also in view of their novel claim features (which both narrow the scope of the particular claims and compel a broader interpretation of the respective base claim from which they depend).

IV. Conclusion

Claims 1-75 are pending in the current application. As shown above, there are important differences between the claims and the applied art. Moreover, a person of ordinary skill in the art considering the applied art would not find these differences obvious. Accordingly, Applicant respectfully asserts that claims 1-75 are allowable over the applied art. Therefore, Applicant respectfully requests that these claims be passed to issue.

Applicant believes no fee is due with this response. However, if a fee is due, please

charge our Deposit Account No. 06-2380, under Order No. 50671/P004US/09902604 from which the undersigned is authorized to draw.

Applicant respectfully requests that the Examiner call the below listed attorney if the Examiner believes that such a discussion would be helpful in resolving any remaining problems.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Version with markings to show changes made**".

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Respectfully submitted,

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Version With Markings to Show Changes Made

In the Specification

Paragraph beginning at page 3, line 5, is amended as follows:

Each element type, device, [and] as well as other managed objects requires a separate set of rules to be tailored to the nature of the object, its specific hardware and software, and the business practices of the company. Each rule set provides the details for the management of the particular object to which the rules are directed. NetExpert's Fourth Generation Language (4GL) editors permit this customization to be performed by subject matter experts (SMEs). They use their knowledge to create simple sets of rules such as "if-then" statements to manage their Network Elements, EMs or NMSs, rather than requiring skilled programmers to integrate devices and other elements with additional computer software code such as C and/or C++. However, rule-set development is labor and time intensive, as well as subject to human error and expense.

Paragraph beginning at page 17, line 18, is amended as follows:

A set of object class definitions that can be used by many software applications for the consistent, integrated management of telecommunications and/or data networks and services [is typically] can be employed. An object class is a definition, or template for a software object that is used to represent physical or logical resources in a software application.

Paragraph beginning at page 19, line 7, is amended as follows:

FIG. 8 depicts a preferred embodiment of the Universal Service Activation Architecture of FIG. 7 that uses artificial intelligence, more specifically, it uses expert system EMS/NMS/OSS 200 for implementing an Universal Service Activation System (USAS) 400 to automatically provision and activate desired/requested service components. Components of FIG. 8 that are similar to those in FIGS. 4, 5 and 7 have been labeled accordingly. The illustrated high-level graphical representation of FIG. 8 is preferably an open, layered

operations architecture specifically designed to meet and exceed the architectural needs of large-scale, multi-service networks as they grow in both size and complexity. Universal Service Activation System (USAS) 400 generally includes a Service Provisioning System(s)(SPSs) 402 and an activation system 405 generally comprising, order processing system 406 having a messaging interface(s) 407, order database 356, order processor(s) 375, a peer manager(s) 380, gateway(s) [350]235, a data archiver 354, Domain Manager(s) (DMs) 410, 415, and 420, and Element Management System(s) (EMSs) 410_1 - 410_n, 415_1 - 415_m, and 420_1 - 420_k. (The combined Domain Manager(s) and Element Management System(s) 385_1 - 385_N of FIG. 7 are shown separately.) In the depicted FIG. 8, the exemplary Element Management System(s) (EMSs) 410_1 - 410_n, 415_1 - 415_m, and 420_1 - 420_k with corresponding managed network elements $430A_1$ - $430A_n$, $430Z_1$ - $430Z_m$, $432A_1$ - $432A_n$, $432Z_1$ - $432Z_m$, and $434A_1$ - $434A_n$, $434Z_1$ - $434Z_m$[], are shown respectively. The order processing system 406 preferably employs a Service Activation Server(s) (SAS) as order processors 375_1 to 375_M substantially similar to the management processor 230 shown in FIG. 5. In other words, the activation system is comprised of service/network management system 200, server/rule engine 240, and inference base (management information base (MIB)) 250. Although USAS 400 is comprised of software machines stored and executed preferably by a computer, for clarity of the present exposition, those skilled in the art will recognize that activation system components may be stored and executed in different computers/machines.

Paragraph beginning at page 21, line 28 is amended as follows:

With continuing reference to FIG. 8, the SAS 375 generally performs the service management functions, and distribution of service orders to the exemplary Domain Managers 410, 415, and 420 that are managing their respective destination Network Elements (NEs) $430A_1$ - $430A_n$, $430Z_1$ - $430Z_m$, $432A_1$ - $432A_n$, $432Z_1$ - $432Z_m$, and $434A_1$ - $434A_n$, $434Z_1$ - $434Z_m$. SAS 375 makes extensive use of order processing system 406 for the order management process, the palette of objects, intrinsic and rule-sets that support the service provisioning process for access providers and local exchange carriers. The service components flow from order processing system 406 to a collection of DMs 410, 415, 420 through peer manager(s) 380 where such customized interfaces provide the mediation process. Order processing system 406 palettes provide the basis for the following functions. The "External Status Notification" function of order processing system 406 inform external systems of order status, as the order progresses through its life-cycle. With the "Error

Propagation function", all errors and reasons are propagated to the external system (in this case the Service Provisioning System(s) 402), if failures occur. The "Persistence" function ensures that the service order supporting data remain in the system as long as required to support rollback and recovery. The "Critical Date Management" function is provided so that the service orders that are in the active state (IN-PROGRESS) are managed within a work queue. A NMS 200 may poll (configureable) to perform[s] periodic evaluation of service orders and their components to ensure that service levels are met. Service Orders that have not yet completed and have exceeded the critical date specified will alarm. These alarms are displayed in the alert display/user interface 245.

Paragraph beginning at page 24, line 25, is amended as follows:

Referring to FIG. 9, the block diagram describes the data flow in [a] one embodiment of the Universal Service Activation System (USAS) 400 which employs the Architecture shown in FIG. 7. The universal (generic) service component instances 440, 445, and 450 entered in the service provisioning system 402 are grouped together to form a service order 451. This is a sample service order request employing one embodiment of the present invention to illustrate how to construct activation system 405 service order and order administration requests. For example, universal (generic) service component instances 440, 445, and 450 contain component data 452, 454, and 456 respectively. The components can be inter-related and there relationships can be used to describe the order of service activation, and to build more complex services by grouping multiple service components. A specific service component not only describes a specific service but also has a logical ordering with respect to other service components. This ordering applies both to the activation flow and (if required) the backing out (or rollback) of the service component.

Paragraph beginning at page 27, line 6, is amended as follows:

As shown in FIG. 9, a simple service order scenario is included which illustrates the general concept of grouping universal service components into service orders and decomposing service components into specific services or commands supported by the network in one of the embodiments of the present invention. Service components 440, 445, and 450, having component data 452, 454, and 456 respectively of a desired/requested service order 451 may be interpreted, translated, and executed depending upon the nature of the associated data. For example, after decomposition, component data 452, 454, and 456 is

sent to appropriate DMs 415 and/or 420. In this particular case, both DMs 415 and 420 receive data. However, after appropriate interpretation, activation system sends component data 454 and 456 to DMs 420 and DMs 415 receives component data 452. In DMs 415 and 420, the received component data is translated in vendor/device specific terminology and sent to targeted network elements $430A_1$ or $430Z_M$ or $432Z_1$ through corresponding EMSs 420_1 or 420_2 or 415_1 respectively.

Paragraph beginning at page 27, line 25, is amended as follows:

The interface A 467 between activation system 405 and service provisioning system(s) 402 can be a generic gateway 235 or via RDBMS table access. It should be apparent to the those having skill in the art that a variety of interfaces can be devised to communicate between various order creation systems and activation system 405. For example, if the SPSs 402 is based on an underlying database, a DB protocol agent gateway may be employed. To interface to other type of order creation system, a specific type of protocol agent may be needed. In these cases, some custom code may have to be written to forward the order into the activation system gateway and to forward status updates from the activations system gateway back to the order creation system. Further, if the upstream system (customer care or service order entry or service provisioning system) is providing a custom order format to activation system 405 and a NetExpert or NX gateway is used for the interface, then the service order parsing rules must be created. If the upstream system can support the format indicated for activations system 405, then no customization is required.

Paragraph beginning at page 28, line 14, is amended as follows:

The interface B 468 defines the bi-directional communication that occurs between an instance of order processing system and domain managers (DMs). In one embodiment of the present invention, a activation system registry is used to define the service order/request routing and the parameters of the routing. In order for activation system 405 to be aware of the availability of an domain manager (DM) that can serve a specific network elements identified by a network ID, the DM preferably informs activation system 405 the network ID's that it supports. The information is generally kept in activation system registry for later usage in component distributions. Interface C 469 is normally [a] bidirectional and employed to communicate between network elements (NEs) via element management system(s)(EMSs) and domain manager(s)(DMs).

Paragraph beginning at page 28, line 24, is amended as follows:

FIG. 10 indicates a preferred universal service order definition 451 composed of universal (generic) service components 440, 445 , and 450. Service order 451 comprises order- and component-level information. FIG. 10 shows order-level information. The exemplary service order 451 format further comprises of Order begin header 475 to indicate the beginning of a service order, Order end header 476 and Order end statement/command to indicate end of the service order with order number as an attribute. Further the Order header preferably includes a set of predetermined parameters having a parameter name and a corresponding particular value. For example, in FIG. [9]10 illustration, following parameters are included: ORDER 478; TYPE 479; TIMESTAMP 481; ACTION 483; RELATED ORDER 485; DATE 487; CRITICAL DATE 489; STATUS 491; OPERATOR 493; ROLLBACK 495 could be assigned manual or automatic; and PRIORITY 497 could be assigned normal, high, expedite or low.

Paragraph beginning at page 29, line 8, is amended as follows:

FIG. 11 shows component-level information for a preferred individual universal (generic) service component 450 definition having component data 456 generally being dependant on service. The exemplary universal (generic) service component 450 format further comprises of Component begin header 510 to indicate the beginning of a component and Order end statement/command to indicate end of the component with order number as an attribute. Further the Order header preferably includes a set of predetermined parameters having a parameter name and a corresponding particular value. Similar to FIG. [9]10 format, in FIG. 10 illustration, following component related parameters are included: ID 512;SERVICE 514; ACTION 516, NETWORKID 518; CRITICAL DATE 520; PREDECESSOR 522; PREDECESSOR 524; ROLLBACK 526; ROLLBACK 528; PRIORITY 530 could be assigned normal, high or low; and PARTIALALLOW 532 could be assigned yes or no.

In the Claims

29. (Amended) A service activation system for activating a service on a target network management system or other information management system with universal or generic informational changes entered in one or more service provisioning systems, the system comprising:

(a) an activation system further comprising:

an order processing system communicatively interconnected between said service provisioning systems and

at least one [or more] domain [managers] manager communicatively connected to the order processing system for receiving [the] a service [order,] order comprising at least one generic service component, wherein the at least one domain manager translates said at least one generic service component into corresponding device specific parameters, and the order processing system is adapted to route the at least one [or more] generic service [components] component to an appropriate domain manager of the at least one domain manager,

one or more peer managers communicatively connected to the at least one domain manager to route the at least one [or more] generic service [components] component to an appropriate domain manager of the at least one domain manager, wherein the at least one [or more] generic service [components are being] component is received from the [at least one] order processing system, [having,] wherein each of said at least one domain manager having

at least one element management system communicatively connected to the at least one domain manager for receiving the device specific parameters in order to activate the service on the target network; and

(b) at least one gateway as an interface to the service provisioning systems, communicatively connected to said service provisioning system for receiving a service activation request, wherein said gateway having a processing engine for

(1) sending and receiving messages, and

(2) identifying, parsing service order and component data for population into order database tables.

44. (Amended) A service activation system for activating a service on a target network management system or other information management system with universal informational changes entered in one or more service provisioning systems, the system comprising:

means for describing a service by one or more universal service components using universal service component relationships stored in a database;

means for translating a service by employing universal service translation including parameter mapping, service decomposition, and command [composition;] composition, wherein said means for translating comprises means for translating vendor neutral said one or more universal service components into vendor specific form and means for translating device neutral said one or more universal service components into device specific form; and

means for activating a service by applying service modeling using object networks including atomic, multi-step, and logical objects.

46. (Amended) The system of claim 44, wherein the means for translating a service comprises:

means for processing of a service order by the activation system;

means for routing said one or more universal service components to an appropriate domain managers;

[means for translating vendor neutral said one or more universal service components into vendor specific form;

means for translating device neutral said one or more universal service components into device specific form;]

means for decomposing said one or more universal service components into element activation requests using object networks;

means for routing vendor specific parameters to the appropriate element management systems; and

means for routing location specific parameters to the appropriate element management systems.

48. (Amended) A universal service activation system comprising:

means for populating into a service provisioning system one or more universal service [components;] components, wherein said one or more universal service components each provide a vendor neutral and device neutral definition of a service;

means for grouping said universal service component instances together to compose a service order;

means for spawning of the desired service order design to an activation system through at least one messaging interface;

means for processing of a service order by the activation system;

means for routing said universal service components to an appropriate domain manager;

means for translating [vendor neutral] said universal service components into vendor specific format;

means for translating [device neutral] said universal service components into device specific format;

means for decomposing said universal service components into element activation requests using object networks;

means for routing vendor specific parameters to an appropriate element management system;

means for routing location specific parameters to an appropriate element management system;

means for initiating vendor specific events, delivering activation commands or data to network elements through an appropriate element management system to enable the desired service;

means for initiating device specific events, delivering activation commands or data to network elements through an appropriate element management system to enable the desired service; and

means for sending status responses through the activation system and an appropriate messaging interface to the appropriate one or more service provisioning systems.

49. (Amended) A computer-implemented method for universal service activation comprising:

describing a [service;] service in a universal service component;

including one or more of said universal service components in a service order;

processing said service order by an activation system;

routing said one or more of said universal service components included in said service order to an appropriate domain manager;

said appropriate domain manager translating [a service;] vendor neutral universal service components into vendor specific form and translating device neutral universal service components into device specific form; and

activating [a service.] said service described by said one or more universal service components in said service order.

51. (Amended) A computer-implemented method for service translation process of claim 49 further comprising the steps of:

[processing of a service order by the activation system;

routing said universal service components to an appropriate domain manager;

translating vendor neutral universal service components into vendor specific form;

translating device neutral universal service components into device specific form;]

decomposing said universal service component into element activation requests using object networks;

routing vendor specific parameters to the appropriate element management system; and

routing location specific parameters to the appropriate element management system.

53. (Amended) A computer-implemented method for universal service activation comprising the steps of:

populating into one or more service provisioning system one or more generic service components;

grouping said generic service [component instances] components together to compose a service order;

spawning of the desired service order design to an activation system through a messaging interface;

processing of a service order by the activation system;

routing said generic service components to an appropriate domain manager;

translating vendor neutral generic service components into vendor specific terminology;

translating device neutral generic service components into device specific terminology;

decomposing said generic service components into element activation requests using object networks;

routing vendor specific parameters to [the] an appropriate element management system;

routing location specific parameters to [the] an appropriate element management system;

initiating vendor specific events, delivering activation commands or data to network elements through an element management system to enable the desired service;

initiating device specific events, delivering activation commands or data to network elements through an element management system to enable the desired service; and

sending status responses through the activation system and the appropriate messaging interface to the appropriate service provisioning system.

54. (Amended) A service activation system for activating a service on a target network, comprising:

(a) an order processing system for receiving a service order having one or more generic service [components;] components defining a service in device neutral parameters;

(b) at least one domain manager communicatively connected to the order processing system for receiving the service order, wherein the order processing system is adapted to route the one or more generic service components to an appropriate domain manager of the at least one domain manager and the domain manager translates said generic service component into corresponding device specific parameters;

(c) at least one element management system communicatively connected to at least one domain manager for receiving the device specific parameters in order to activate the service on the target network; and

(d) at least one connection into an order database for receiving a service activation request one or more service provisioning systems.

55. (Amended) A service activation system for activating a service on a target network, comprising:

(a) an order processing system for receiving a service order having one or more generic service [components;] components defining a service in device neutral parameters;

(b) at least one domain manager communicatively connected to the order processing system for receiving the service order, wherein the order processing system is adapted to route the one or more generic service components to an appropriate domain manager of the at least one domain manager and the domain manager translates said generic service component into corresponding device specific parameters; and

(c) at least one network management system communicatively connected to at least one domain manager for receiving the device specific parameters in order to activate the service on the target network.

61. (Amended) A service activation system for activating a service on a target network management system or other information management system with universal or generic informational changes entered in one or more service provisioning systems, the system comprising:

(a) an activation system further comprising:

an order processing system communicatively interconnected between said service provisioning systems and

at least one [or more] domain [managers] manager communicatively connected to the order processing system for receiving [the] a service [order,] order comprising at least one generic service component, wherein the at least one domain manager translates said at least one generic service component into corresponding device specific parameters, and the order processing system is adapted to route the at least one [or more] generic service [components] component to an appropriate domain manager of the at least one domain manager,

one or more peer managers communicatively connected to the at least one domain manager to route the at least one [or more] generic service [components] component to an appropriate domain manager of the at least one domain manager, wherein the at least one [or more] generic service [components are being] component is received from the [at least one] order processing system, [having,] wherein each of said at least one domain manager having

at least one network management system communicatively connected to the at least one domain manager for receiving the device specific parameters in order to activate the service on the target network; and

(b) at least one gateway as an interface to the service provisioning systems, communicatively connected to said service provisioning system for receiving a service activation request, wherein said gateway having a processing engine for

(1) sending and receiving messages, and

(2) identifying, parsing service order and component data for population into order database tables.